

How to use your

Beaulieu

camera

R8

PLATE 1

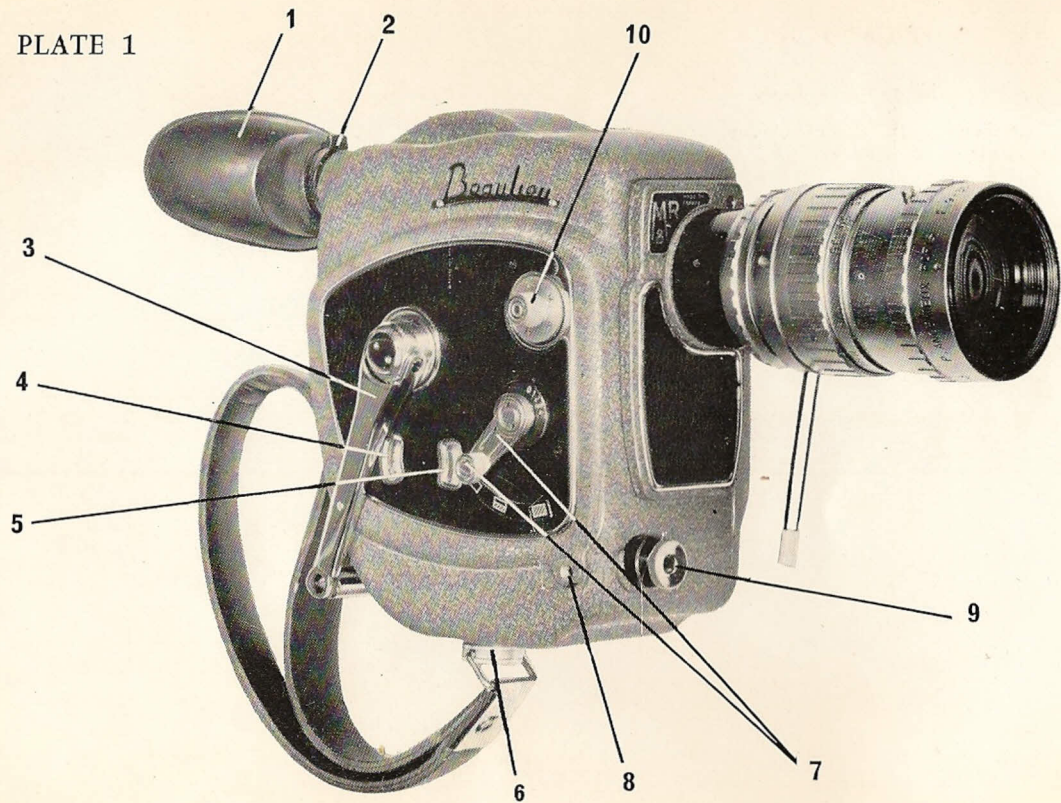
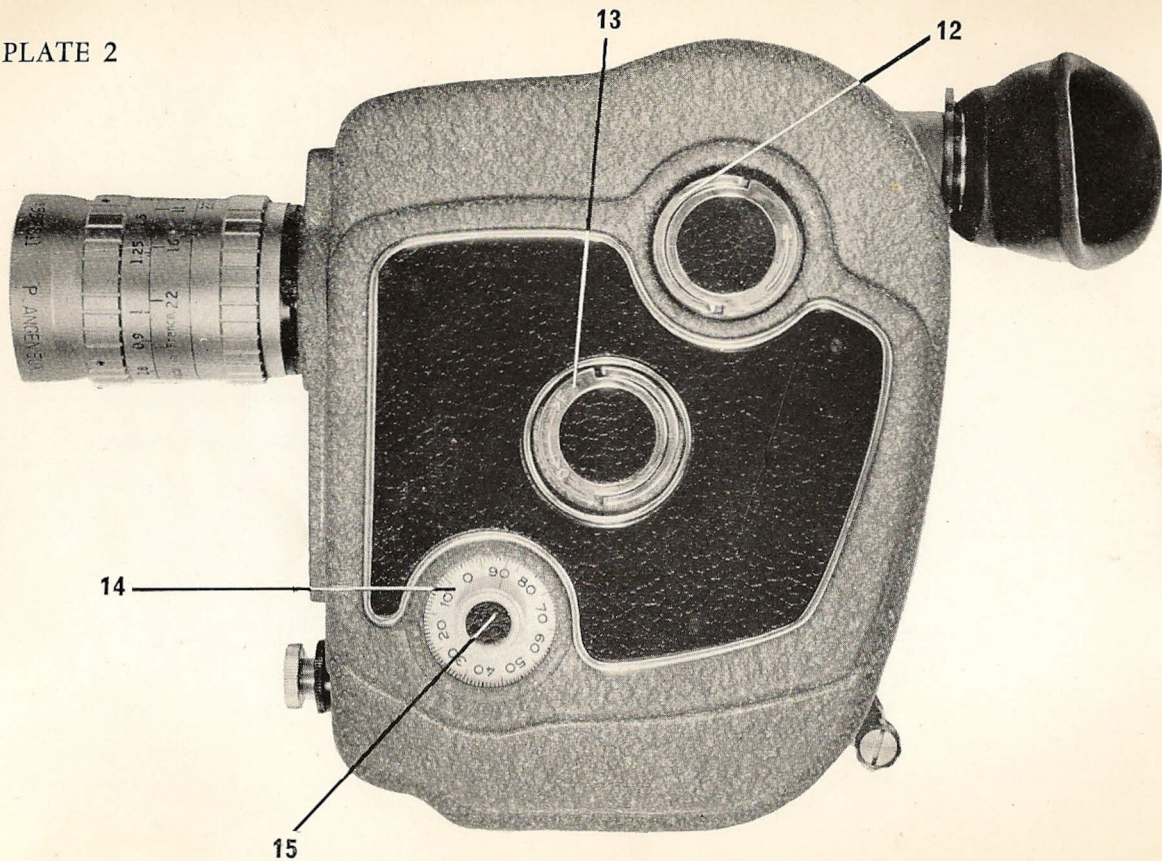


PLATE 2



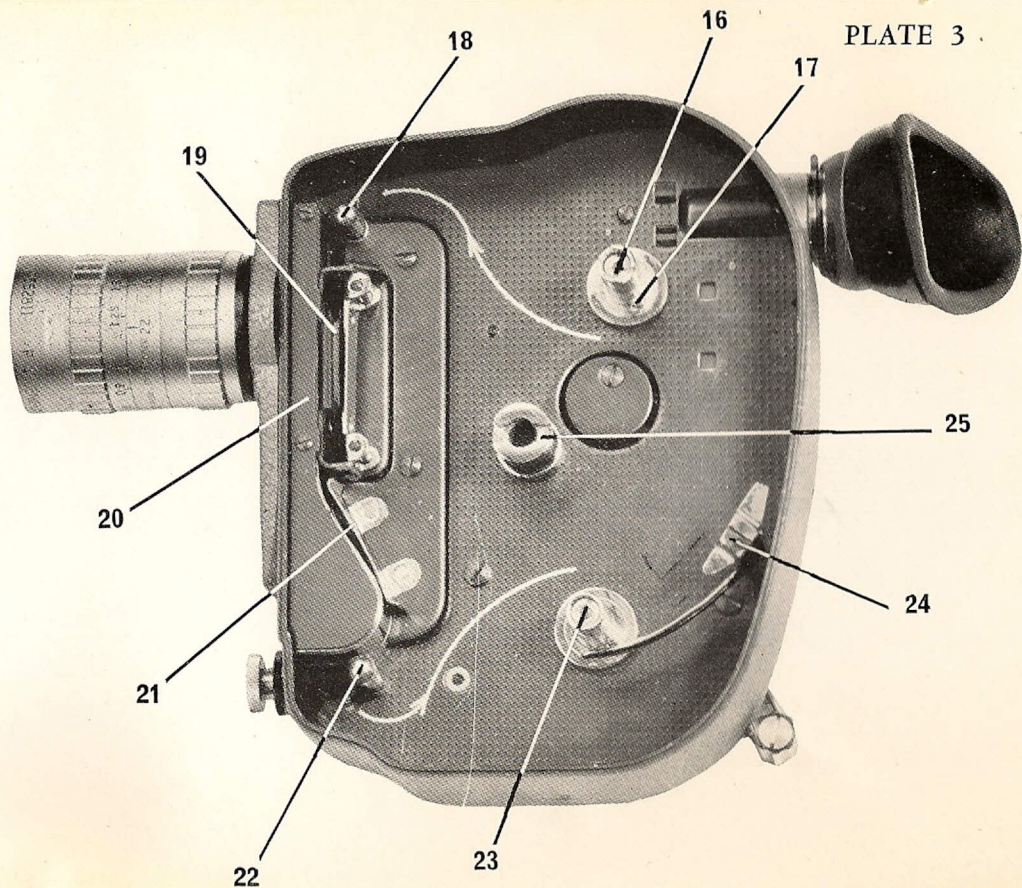


PLATE 4

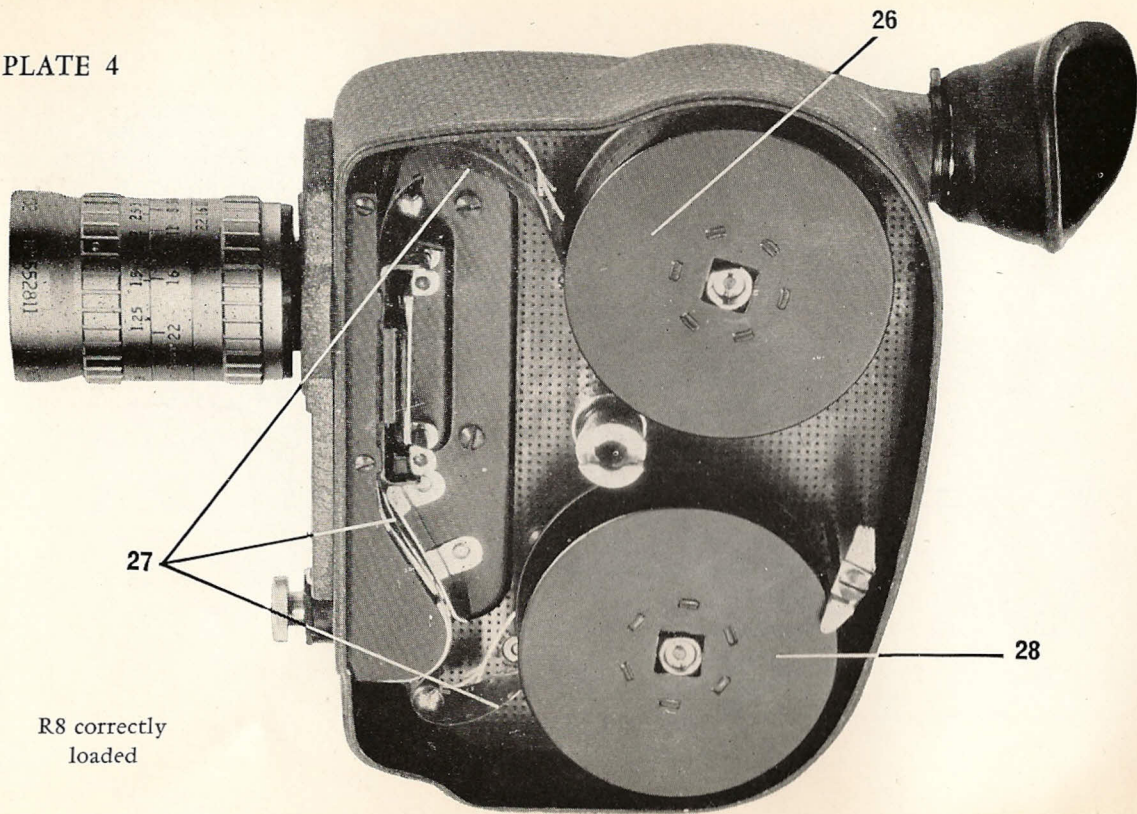


PLATE 1

1. Reflex viewfinder eyepiece
2. Eyepiece adjustment lever (to suit operator's sight)
3. Winding crank handle
4. Footage counter (feet)
5. Footage counter (meters)
6. Tripod or carrying strap fixing bushing
7. Variable-aperture lever and 3-position locking knob
8. Single-frame release socket
9. Continuous drive release button
10. Speed setting knob

PLATE 2

12. Reverse motion knob
13. Cover locking knob
14. Frame counter
15. Frame counter zero-reset

PLATE 3

16. Feeder spool spindle
17. Spool locating stud
18. Upper guide roller
19. Floating pressure plate
20. Film gate
21. Film guide
22. Lower guide roller
23. Take-up spool spindle
24. Footage counter lever
25. Cover fixing bush

PLATE 4

- 26. Feeder spool
- 27. Film circuit
- 28. Take-up spool

The lucky owner of an 8 mm Beaulieu Reflex camera should have no difficulty in shooting good films, right from the start, if he observes the following simple instructions, even though photography or film-making may be entirely new ground for him.

The instructions closely follow the natural sequence of operation from loading to unloading.

Another chapter is reserved for the description of special effects which can be easily obtained, with a minimum of "know-how", with this advanced cine-camera. Beginners are also given a few hints and tips on how to avoid the usual technical mistakes of neophyte cameramen.

Finally, a special chapter is devoted to vital advice on how to maintain your camera in perfect condition.

Naturally enough, this small handbook will not provide answers to all the technical problems which you will meet as your skill increases. This will be the task of your Beaulieu Cinema agent. Beaulieu agents are appointed on the strength of their technical competence and "service-ability". They will be delighted to oblige.

I - GENERAL INSTRUCTIONS

Preliminaries

1. Load your camera with a standard 7.50 m spool.
 2. If your camera is a type T.R.8 (3-lens turret), select lens to suit scene to be shot.
 3. Estimate light intensity of the scene, either by means of photocell lightmeter or from table on page 9. This data will be used to adjust the diaphragm setting.
 4. Frame scene by looking through the viewfinder. Focus by means of the range ring on the lens.
 5. Set filming speed to required value.
 6. Trip release button and begin shooting.
1. Free the winding crank handle (3) from the fixing stud. Pivot crank through 180° about its hub and wind-up fully, turning in a clockwise direction. Do not wind beyond stop limits. Again pivot the crank handle 180° about its hub, turn anticlockwise to bring handle to locking stud.
 2. Open camera lid by unlocking knob (13) in direction indicated. Remove empty spool supplied with camera.
 3. Reel-out 30 to 40 cm of non-exposed film and place film spool over its spindle (ph. 3-16). Check that locating lug (17) is correctly engaged into spool square recess.
 4. Pull out slightly the floating pressure plate (19) and insert film between plate and gate (20) after threading it along arrow-indicated path, over upper roller (18). The film also passes between the gate and the film guide (21) and over the lower roller (22). Check that film is well engaged in the gate: the pressure plate should snugly press upon the gate.
 5. Bend end of film in the shape of a clip

1 - R 8 Loading Procedure

IMPORTANT. Never run an unloaded camera at more than 24 frames/second.

Loading is performed under conditions of dimmed lighting. Select a dark or shaded spot for this operation.

of 1 to 2 cm length. Insert into slot of hub of empty spool. Wrap tightly 3 or 4 turns of film over spool hub.

6. Pull counter feeler clear of film, by means of lever (24) and place empty spool over take-up spool spindle (23), positioning locating lug as in the case of the feeding spool. Release trip button (9) to run a few cm of film and check that everything is in order.
7. Close camera lid:
 - a) Press on locking knob (13),
 - b) Turn locking knob clockwise. Fold key down, flush with camera body.

2 - Lens Selection

A - If your camera is a Beaulieu Model M. R. 8

In common with all Beaulieu cameras, your Model M.R.8 can be equipped with any standard lens, with type-C mount (15.8 mm dia —32 threads/inch— normalized threading length not exceeding 3.8 mm).

If your camera is equipped with a "normal" lens (12.5 mm focal length for 8 mm size films) you can tackle most subjects. Howe-

ver, putting the interchangeability feature of your camera to good use, you can also employ a comprehensive range of extra lenses of different field angles. For instance: "wide-angle" lenses (focal length of approx. 6 mm) that cover a wide field of vision, and a "telephoto" lens (35 mm and even 50 mm focal length) which covers only a restricted span of vision, but magnifies and "scans" the details of the scene. There is an "optimum" lens for every scene: optimize your movies by using the lens most suitable for the scene.

If your M. R. 8 is equipped with a variable focal length lens.

This type of objective combines, in one single lens, the features of the normal range of fixed focal length lenses. There is, accordingly, no need for prior lens selection: the operator simply chooses the most suitable field angle (wide, normal, telephoto... and all intermediate ranges) from observation through the viewfinder, and sets it by means of the knurled ring on the lens.

B - If your camera is a Model T. R. 8

In that case, the turret is equipped with 3 lenses of different focal length, generally:

wide-angle, normal, telephoto, assuring three fields of different span.

The lens to be used should be in the upper position on the turret. Proceed as follows to bring it to its operating position: Hold the camera with the left hand. Disengage turret-locking pawl by pressing on it with the thumb of the right hand. Simultaneously, the fore or middle finger of the right hand pushes one of the three lenses, rotating the turret clockwise. The locking pawl can now be released. Continue to apply pressure to the lenses (without forcing) until the turret locks into the next indexing position. The upper lens will then be automatically set in the correct working position. Lenses are interchangeable, as on the M.R.8. The turret accepts all lenses with standard mounts. Relative lens position on the turret is immaterial.

Extension tubes and rings

Designed for macrocinematography work, these lens extensions permit close-up filming of very small items, making them appear on the film larger than normally visible to the eye.

A complete set of extension tubes and rings may be obtained from any exclusive Beaulieu agent. They are made in combination form, so that they may be mounted either on 8 mm or 16 mm cameras.

3 - Diaphragm Setting

Diaphragms have a light-gating function. They form circular orifices of variable aperture controlling the amount of light impinging on the sensitive surface of the film. By varying the diameter of the aperture, the luminous flux can be accurately dosed to assure correct tone or color rendering. Too much light results in over-exposure, too little light in under exposure.

How to estimate correct exposure?

a. Photo-cell exposure-meters

Whenever possible, use an exposure meter. When the window of the photo-sensitive cell is pointed at the object to be filmed, the meter registers the amount of reflected light in the form of "stop" readings.

To simplify matters, most meters are calibrated on the assumption that a continuous film speed of 16 (or 18) frames-per-second (f.p.s.), corresponds to an exposure of $1/32$ second per frame, a speed of 24 f.p.s. corresponding to $1/48$ (or $1/50$) second.

However, few cameras are actually timed on that basis. The R.8, for one, is timed to give a $1/50$ seconde exposure at 18 f.p.s.

Consequently, the $1/50$ second setting, provided on all exposure meter scales, will be used as the reference value when the 18 f.p.s. speed setting is employed. At other speed settings, the exposure will be

12 f.p.s.	=	$1/30$	sec. per frame
18	—	=	$1/50$ — —
24	—	=	$1/70$ — —
48	—	=	$1/140$ — —
64	—	=	$1/180$ — —

If, after processing, the films show consistent over or under exposure, the exposure meter should be verified by a specialist.

b. Stop setting chart

In the absence of an exposure meter, the stop settings indicated in the chart of page 9 provide a fair method of estimation.

With practice, you will acquire a flair for correct light evaluation and will no longer need to refer to the chart. (See facing table.)

4 - Focusing and Framing

Having selected your subject and decided on a suitable lens and diaphragm setting, you are about to proceed with the subject

focusing and framing part of the job. This operation is capital for the success and quality of the film.

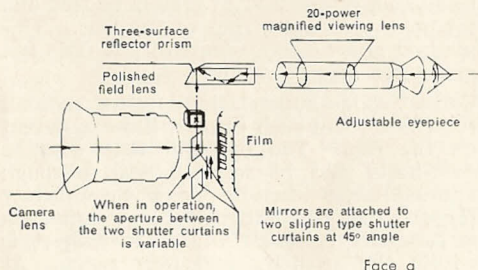
You have, in the R.8, a camera equipped with a remarkable reflex viewfinder designed to assure superior focusing and framing. Focusing is responsible for the definition of the recorded image. It is based on a correct estimation of distance. With non-reflex cameras, the distance from camera to subject is assessed in meters or feet and set on the focusing ring of the lens. This method is generally adequate but does not guarantee correct results.

Correct range appreciation is often difficult to achieve, and such errors will be apparent on the film. The operator may also be over-hasty and be satisfied with a rough approximation when he does not completely forget to set the range... Now, definition is generally constant when the subject is within the 30-meter and over range. At short range, this is no longer true. With a longer focal lens, a subject which is sharply focussed at 3.50 m will be less sharp at 4 m, out of focus at 5 m.

The Beaulieu Reflex Viewfinder system does away with any possibility of range-setting error. The principle of operation is the following: Having traversed the lens, the light flux is stopped between the lens and the film by a shutter curtain. A

mirror is mounted, at 45° relatively to the focal plane, on the shutter (see fig. a). The mirror receives the light and reflects it to a ground glass. The eye, applied to the eyepiece of the viewfinder system, examines the image through a lens with a magnifying power of $\times 20$.

Sketch of the R.8 Reflex Viewfinder



The sliding-type shutter then retracts clear of the light path and the image impresses the sensitive surface of the film. In step with the film actuating motion, the shutter rises, the mirror catches the image, reflects it to the operator's eye, again retracts free

of the light path, unmasking the film, the sequence being repeated at a rapid rate (18, 24, 48 times per second), depending on the speed setting. This constitutes what is known as "reflex viewfinding", the operator viewing exactly that image which is actually being impressed on the film.

The Beaulieu Reflex system offers one outstanding advantage: 100 % of the light gated by the objective reaches the viewer's eye. Hence, the term of "ultra-luminous" used to define the Beaulieu system. This "plus" feature permits accurate and comfortable focusing, even at very small stops.

The unique characteristics of the Beaulieu Reflex system warrant a few additional explanations. If Beaulieu had utilized a straight reflex system, whereby the image is directed from the mirror directly to the observer's eye ("aerial image"), the image, though very luminous, would lack definition at certain ranges, so that focusing would be difficult to achieve, especially with long focal-length lenses.

Beaulieu uses a ground-glass field lens placed between the viewfinder eyepiece and the mirror. This lens "freezes" the picture, giving optimum definition at selected ranges. To prove this point: Set your camera for tele-lens shooting—set focusing (range) ring to ∞ (opposite red mark)—point camera

STOP SETTINGS AT 18 F.P.S.

		Cloudless noon sunlight (11 a.m. to 4 p.m.)		Sun slightly obscured or sum- mer sunlight (be- fore 11 a.m. and after 4 p.m.)		Sun obscured by white clouds		Sun obscured by heavy clouds	
Subject	lighting	A	B	A	B	A	B	A	B
Bright (snow, clouds, sand beach)	front	f. 9	f. 16	f. 6,3	f. 12,5	f. 4	f. 8	x	x
	side	f. 8	f. 12,5	f. 6,3	f. 12,5	f. 4	f. 8	x	x
	against light	f. 5,6	f. 11	f. 5,6	f. 11	f. 4	f. 8	x	x
Light (sea, flowers against skyscape)	front	f. 8	f. 12,5	f. 5,6	f. 11	f. 4	f. 8	x	x
	side	f. 6,3	f. 11	f. 5,6	f. 11	f. 4	f. 8	x	x
	against light	f. 4,5	f. 9	f. 4,5	f. 8	f. 4	f. 8	x	x
Average (land- scape, flowers against lawn background)	front	f. 6,3	f. 12,5	f. 4,5	f. 8			x	x
	side	f. 5,6	f. 11	f. 4,5	f. 8		f. 5,6	x	x
	against light	f. 4	f. 8	f. 4	f. 6,5			x	x
Dark (in shadows)	side	f. 4	f. 8	f. 4	f. 6,5	x	x	x	x

Column A: film speed range: 10 to 12 ASA (22-23 Scheiner) {
 Kodak Panchro
 Kodachrome Daylight
 Gevaert Micropan
 Column B: film speed range: 32 to 40 ASA (ou 27-28 Scheiner) {
 Super Pan Gevaert
 Kodak Super X
 Lumière Lumipan
 Ferrania 28°

If the required stop setting is not marked on the lens, the aperture can be set by rough approximation (opening is gradual). The letter x indicates that, for obtaining an accurate stop setting, a photo-cell exposure meter is essential.

at sky. (If you normally wear glasses, you can take them off. Simply adjust eyepiece to your sight, rotating ring (2) to obtain maximum definition of grain pattern of ground glass.)

Your eyepiece is now adjusted to your eyesight, providing optimum vision with all lenses. Now, point at an object within short range, say 3 meters. The focusing ring being set to infinity, the image viewed in the viewfinder will be out of focus. Gradually adjust the focusing ring: the object will come into clear focus and finally assume optimum definition. If you overshoot the point of optimum focusing, the image will again become hazy. Return to the point of accurate focusing.

You will now note that the background is out of focus. Actually, this contrast between the definition of the selected subject and the softness of the other levels is responsible for the "3-D" impression that adds quality to your images.

This short practical approach to "spatial" appreciation has, we think, brought out for you the unparalleled advantages of Beaulieu reflex viewfinding: you retain at all times complete "visual" mastery over your filming.

You can, while filming, shift the focus from one subject to another, or again gra-

dually bring that subject into focus, to introduce a dramatic touch.

Screening will bring no unpleasant surprises, since you were perfectly aware of what the scene looked like to the camera when you were actually filming.

Naturally, framing problems are automatically solved: unless deliberately introduced, "chopped" heads and poorly centered objects will never be found in your films.

5 - Filming Speeds

Filming speed is the number of frames per second moving past the objective (normal speed: 16 f.p.s.). However, the 16 f.p.s. rate is not indicated on the speed setting knob (10) (which has an 18 f.p.s. setting). Why? Because it was observed that, by slightly increasing the f.p.s. setting, picture quality was improved. You will find that, shooting at 18 f.p.s., assures improved screening smoothness.

Other speed settings are provided:

- 12 f.p.s. for moderate "accelerated-motion". Also used to compensate for a lack of ambient lighting: the actual increase in

exposure time obtained with the lower speed is equivalent to an extra half stop.

- Speed settings of 24, 48 and 64 f.p.s. provide increasingly slower motion effects. The action of the speed control is continuously variable, that is, all intermediate speeds are obtainable. The operator can change,

at will, from accelerated to slow-motion throughout the filmed scene. However, it should be borne in mind that, by altering the speed, exposure times are simultaneously modified and, accordingly, the stop settings should be adjusted in accordance with the following table:

Stop setting	f. 1,4	1,7	2	2,4	2,8	3,4	4	4,7	5,6	6,3	8	9	11	13-16
									48		24	18	12	
								48		24	18	12		
							48		24	18	12			
Example						48		24	18	12				
					48		24	18	12					
				48		24	18	12						
			48		24	18	12							
		48		24	18	12								

Assuming the exposure meter reads 5.6 at 18 f.p.s., that is, an exposure time of $1/50$ second, then if the speed setting is altered during shooting, the following stop settings are found along the same line (between the two arrows):

at 48 f.p.s. f. 3.4

at 24 f.p.s. f. 4.7

at 12 f.p.s. f. 6.3

6 - Shooting

A - Tripping

Everything is set: diaphragm setting, focusing, speed. But before you press on the trigger release, have you got the right hold on your camera?

a. Camera without grip attachment

Camera held in right hand, palm of left hand pressed against lid, fingers wrapped over the camera. Right elbow against the body. Rubber eyepiece is pressed against eyebrow.

b. Camera with grip attachment

Camera hold is substantially improved and facilitated by the Beaulieu R.8 grip.

An attractively styled attachment of functional design, this transparent polyester grip screws into the bushing (6) provided under the camera (normally used for fixing the wrist strap). The forefinger of the right hand, guided by the grip grooving, quite naturally slips into shooting position, against the trip button.

The left hand remains free to adjust focusing, the eye remains fixed at the eyepiece while shooting.

c. Tripod operation

If you are striving for perfection, you should use a tripod stand which will assure real stability. This is particularly valuable with tele-lenses, when the slightest displacement is amplified and causes "jittery" pictures.

The R.8 screws on the threaded bushing (6) used for fixing the wrist strap. Trip release is achieved: by trip button or by flexible trip cable.

Trip Button

Simply press on the button (9) and keep button depressed as long as you wish to film.

If you are filming a continuous sequence: press on trip button and give quarter-turn twist that will lock it in the "running"

position. Camera will continue until drive mechanism has run down. To stop filming, give another quarter-turn twist, which releases the button back into the "off" position.

Flexible trip cable

A flexible trip cable, provided with the camera, screws into the internal threading of the trip button. Intermittent or continuous trip control can then be assured by means of the flexible cable. The cable is used whenever the camera is tripod-operated or when the camera must be kept absolutely still.

Anti-trip locking: Push the variable-aperture shutter lever (7) fully home.

B - Film-running time

With the drive mechanism fully wound, total running time is 30 seconds, at the rate of 18 f.p.s. You should get into the habit of winding-up the motor after each scene, so as always to have some driving power in reserve.

The black and white or color film which you load into your camera is known as a "double-eight" film. That is, the film has an

overall width of 16 mm, but is only impressed in two successive strips of 8 mm width (the reel being inverted after the first length has been impressed). Actual reel length is 7.50 m overall impressed—track length: 15 m. The two half-strips are subsequently separated and spliced into one 8 mm film for screening.

Film running is monitored by means of a footage counter, providing in meters (ear-dout 5) or feet (readout 4) indications of the *remaining* length of film available for impression.

Counter actuation is controlled by a "feeler" finger (24) fixed to the shaft and which gradually moves away from the hub of the take-up spool as its load increases. Filming effectively begins immediately the red (feedin) section has rotated past the index line on the dial. When the red (film-ended) section reaches the index line on the dial, filming is over. However, run the film until the counter comes to a standstill and the tell-tale hum of the spool drive ceases. You then proceed to invert the spools in order to impress the second half of the film.

To change, or invert the spools: open the lid, by means of button (13). This should be done in a well-shaded spot, and reel-up the last few inches of film which may still remain in the gate, by rotating the spool

by hand, holding the feeler finger clear by means of lever (24). Remove spool, invert it and place it over the feeder spindle, proceeding as per loading prescriptions. Naturally, the (empty) feeder spool will

be placed over the take-up spindle (23).

Note: The same procedure will be followed for unloading the camera after the full 15 m length is spent.



II - SPECIAL EFFECTS

These may be either "movie" effects designed to make the film more attractive or to facilitate changeovers from one scene to another, or may relate to a cinema technique known as "animation".

Special effects are achieved by means of the variable-aperture shutter system and reverse film drive. Animation is a frame-by-frame operation.

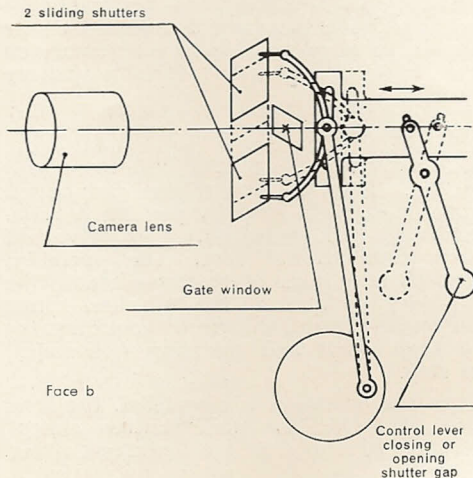
1 - Movie Effects

The variable-aperture shutter is a mechanical system (see fig. b) which consists in reducing or in increasing, as required, the amount of shutter gating from maximum opening to total masking. This special feature of the Beaulieu R.8 permits lap-dissolves from one scene to another, or one range to another.

Shutter variation is controlled by a lever (7). Forward movement causes the shutter to close. Rearward movement, to open. The lever can be locked in the following positions:

- shutter open
- shutter half-open

shutter closed



To lock lever: push knob towards lever axis.
To unlock: push knob away from lever axis.

a. Fading-in, fading-out

With this facility, a scene can be ended by gradually dimming the images to total blanking and, conversely, to start a scene with images gradually emerging from complete darkness into normal brightness.

Lap-dissolve effects should preferably be achieved with the camera mounted on its tripod, so as to be able to concentrate on the operation of the variable-aperture system.

Fade-out

Release lever from the "shutter-open" setting. Press on trip release and adjust variable-aperture lever by pushing it home (smoothly and gradually). Film drive will then automatically stop. The operation theoretically takes 4 seconds—hence, the 0-1-2-3-4 markings on the hub disc. Start the operation with the "zero" count and try to keep count and markings (red index) in step.

Once the operation is completed, the lever can be locked in the "shutter closed" position, so as to avoid accidental re-starting.

Fade-in

This is the reverse operation. It can immediately follow a fade-out or be used without previous fade-out, to introduce a new scene.

Unlock lever from "shutter closed" position press on trip release and bring lever back, counting the seconds. Lock the lever.

Naturally, these operations can be performed over a period of time shorter or longer than the usual 4 seconds, depending on the desired effect.

b. Lap-dissolves

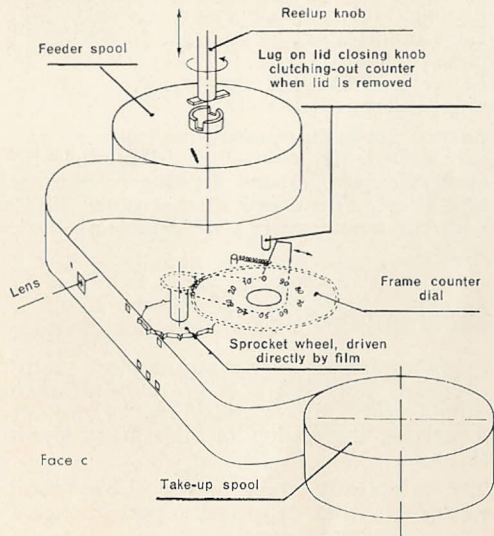
Lap dissolves provide a transition between two scenes by super-imposing (double-exposure) the two scenes during a certain period of time, simultaneously fading one scene out and fading the new scene in. Lap dissolves entail the use of the frame counter (14) and reeling-back (or reverse drive).

Frame counter

The frame counter is actuated by a pinion meshing into the perforations of the film (see fig. c). The forward or reverse motion of the film causes the rotation of the pinion and associated counter. The system provides frame-by-frame readings of strict accuracy.

A knob (15) projecting over the center of the dial escutcheon positions a red index line (to zero frame reading or any other reading), so that the number of spent frames over a given period of shooting can be readily evaluated.

Note that the dial readings are from 1 to 100 and that, for prolonged scenes, 100 should be added to the reading observed.



Merits of Beaulieu frame counter

The frame counter is driven directly by the film; film running can therefore be moni-

tored on the counter which also provides a means of checking whether the film is completely spent before unloading.

Reeling-up (reverse film drive)

Reeling-up is carried out by means of crank (12) which, once pulled out, directly clutches into the spindle of the feeder spool. The crank is then turned in the direction shown by the arrow, reeling-up the required number of frames (monitored on frame counter).

Note that the reel may offer a certain amount of slack about the hub of the feeder spool. This does not effect correct operation. However, it may be necessary to take-up the slack by giving the crank a few turns. When the reeling-up operation is completed, fold crank ring down.

A Unique Beaulieu R.8 Feature

The lens never requires masking during reeling-up.

Two cases may occur:

- motor spring spent—film driving sprocket projects in the film gate, blocking the reeling-up mechanism. The spring mechanism should be wound-up (1/2 turn will do), bringing the shutter to the closed position and retracting the sprocket
- spring not quite spent: shutter is then

closed, sprocket retracted. Reeling-up can take place without masking the lens.

Lap-dissolve procedure

- Fade-out, counting the seconds—work out the number of frames corresponding to the elapsed time, e.g., 4 seconds at 18 f.p.s. = 72 frames. Set the frame counter index to 72 and reel-back to zero. Re-start, feeding in the new scene during a period of time equal to that of the fade-out sequence.

Other application of the variable-aperture shutter

The variable-aperture shutter affects the exposure time and consequently modifies the amount of light gated to the film. By suitably combining shutter adjustment and diaphragming, the recorded images can be accurately controlled. For example, one may, without altering the film speed (saving of film material), "*shoot*" *mobile objects* (racing cars, horses, etc.) by cutting down the exposure time (shutter to half-closed position). Sharper images will result.

Naturally, the diaphragm setting will have to be increased by one graduation (aperture doubled).

Increasing the lens stop entails a decrease of field depth permitting "*soft*" or "*hazy*"

effects, with subject in sharp focus in out-of-focus background.

The variable-aperture shutter can also be used to *reduce the amount of light* (case of high light intensity and fast emulsions). With the variable-aperture knob set to the "half-closed" position, one full stop setting can be gained, without recourse to "neutral grey" filters of doubtful speed factor.

As you gradually master these notions and gain experience, you will no doubt become an R.8 expert, always striving to get the best of your camera's unique possibilities, with the assistance of the variable-aperture shutter.

Super-impression

Super-impression (deliberate double or multi-exposure) may prove of great value when filming, say, firework displays, to provide a striking impression of widespread pyrotechnics.

The prime advantage of the R.8's "total reelup" is that it permits part or total film super-impression.

Also, the feature *permits the substitution*, for an unfinished black-and-white film, of a color film, and conversely.

This is accomplished by reeling up the

impressed length, counting the number of frames. When the film is again utilized, the film is run (with the lens duly masked!) through an equal number of frames. You are then ready again to shoot the balance of unexposed film on the reel.

2 - Animation

This technique consists in snapping a series of "still" pictures of an object or scene, the elements of which are slightly displaced between each successive still, so as to produce motion when the film is screened.

The technique is used for the production of animated cartoons or to reproduce, over a short period of time, phenomena that normally take place over an extended period of time.

For instance, changing cloudsapes can be filmed as a series of separate "snap" shots at 10 sec, 30 sec or 1-minute intervals, depend-

ing on the required speed. The growth of a plant may consist of a series of shots taken, for instance, every 24 hours. Proceed as follows:

Screw into external release brushing (8): the flexible trip cable—press on trip control.

Note that, for animation work, the R.8 camera must be mounted on a tripod and a flexible trip cable used, to assure absolute stability.

For individual frame filming, the following exposure times will be used:

at 12 f.p.s. = 1/60 second

at 18 f.p.s. = 1/100 second

Note: Before proceeding to individual-frame shooting, set variable aperture lever to half-open position; otherwise trip cable cannot be screwed on bushing. Above time settings assume that variable-aperture lever in on that position.

III - AMATEUR MOVIE MAKING: BASICS

A film consists of a series of scenes which themselves consist of a succession images.

The Scene

Remember the golden rule of unity: unity of place - unity of time - unity of action.

Unity of Place

Restrict your filming to a specific portion of terrain: that portion which is framed in your viewfinder and no other. This will, in theory, exclude panning (side or vertical motion of the camera), used and abused by beginners. If you film a wide-field scene, break it down into successive static scenes. If you must pan-over, please bear in mind that:

1. The primary purpose of panning is to link-up to fixed scenes.
2. Panning must be performed very slowly: 90° i.e., a quarter-traverse in 15 seconds.

Unity of Time

Beginners tend to "shoot away", to switch too rapidly from one scene to another.

The result is a series of disconnected "flashes". Minimum scene length, at 18 f.p.s., should be 3 to 4 seconds. Make it a habit to count, mentally, the seconds while filming a scene. Maximum duration for a given scene should not exceed 8 to 10 seconds, unless the scene is of exceptional interest.

Unity of Action

Interest must always be centered on a group, person or object. Do not scatter interest by crowding too many people or objects into the scene.

Picture Quality

Close Ups

8 mm filming thrives on close-ups. The pictures should be as "large" as possible. Do not try to pack-in the whole horizon. Your picture should be unburdened and simply composed. Distant landscapes are disappointing. Close-ups never are.

Level Pictures

Your pictures should be level. Use horizontal and vertical items in the scene. Keep them parallel with your viewfinder.

Stable Pictures

Every movement of the operator is reflected, often amplified, on screening: steady your hold, whenever possible by supporting your arm or the camera on a static object. This is, in particular, essential when a tele-lens is used. Under such conditions, the Beaulieu R.8 reflex viewfinder assures you films of exceptional quality.

Good Picture Definition

Easy to achieve with the Beaulieu R.8 reflex groundglass viewfinding system.

Correct Exposure:

Your best guide: an exposure meter. Can never be used too often, when filming. This booklet has been deliberately written in an elementary style, so that beginners will know each step of the way. As you acquire experience and skill you will become your own best critic. Your local Beaulieu agent will gladly refer you to his interesting collection of books on film-making, whenever you wish to go further.



MAINTENANCE

Two requisites: a handblower and a soft-hair brush, are furnished with your Beaulieu R.8. They will help to keep the main components of your camera in dust-free condition.

A. LENSES

The lenses must be kept in spotlessly clean condition. External parts will be wiped with a soft non-fraying cloth. Never dampen the cloth.

When you finish filming, always replace the protecting cap over the lens.

B. GATE

Clean frequently (every three or four spools) with the small brush supplied with the camera. Opening the pressure plate provides ample clearance for adequate brushing. Similarly, the drive elements are easily cleaned once the drive guides are pulled out.

C. REFLEX SYSTEM

First, de-activate the motor by pressing on the trip button. Unscrew the lens. Bring one of the mirrors in front of the film aperture, by acting on the reel-up crank and on the trip button. If dust is present on the mirror, blow it away with the handblower. Crank-back a little more: the

second mirror appears. Clean it in the same manner. To reach the ground-glass lens, located to the left of the filming aperture, use the reverse motion crank, with the variable-aperture shutter lever set to "shutter-open". Once the two mirrors have been retracted in this manner, you will have easy access to the lens.

CAUTION

Never touch the mirrors or the ground-glass lens, even with the tip of the handblower. These delicate parts are easily scratched.

D. LUBRICATING

Theoretically, lubricating should be left to us. After a period of three years, the camera should be returned to a Beaulieu agent for routine maintenance inspection and lubrication.

Camera Registration Number

The factory number of your camera (which should be quoted every time you deal with your Beaulieu agent) is visible on the inner face of the case, near the wrist strap bushing.

CONTENTS

*Nomenclature of parts indicated 1, 2, 3, 4
on plates*

pages 2 and 3

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Follow the advice
of your Beaulieu cinema Agent
when you "think movies"

Beaulieu
c i n é m a

Beaulieu "REFLEX CONTROL"

MCR 8 TCR 8

The following notes relate exclusively to the new « Reflex Control » series. They replace the following chapters:

— Diaphragm setting - Chapter 3, p.6, 7.

— Stop-setting, table p. 9.

The illustrations concerning the R 8 are, on the whole, applicable to the new models. There is, however, a minor modification in plate 1, where slider (2) is replaced by a side button (located on the right of the viewfinder) which is more convenient. You will also note, on plate 3, a new improvement: guide roller (22) is now a rubber roller.

You will also note that continuous filming is now controlled by flexible release (screwed into the axial thread of the trip button), instead of by the trip button (p. 12).

DESCRIPTION AND PRINCIPLE

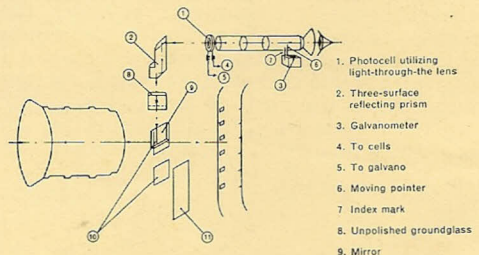
The two cameras are styled exactly like the classical types MR 8 and TR 8, except for a slight bulge at the rear, which identifies the presence of the light-control system.

The operating procedure is the same as in the case of the R 8, the only departure being that light intensity is evaluated through the viewfinder.

There is now no need for a separate exposure meter. The diaphragm is adjusted in the same manner as on a camera of conventional type, i.e., by adjusting the stop ring according to the indications given by the built-in viewfinder pointer.

The camera — whether equipped with a single lens or turret assembly — features

an annular photocell built-into the viewfinder. A unique feature of this system is that the photocell can utilize the light transmitted through the ground-glass lens.

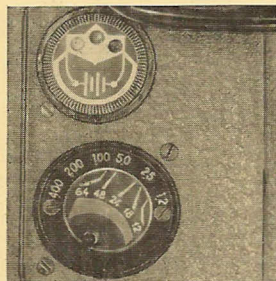


The aperture between the two shutters is variable, while filming.

1. Photocell utilizing light-through-the lens
2. Three-surface reflecting prism
3. Galvanometer
4. To cells
5. To galvanometer
6. Moving pointer
7. Index mark
8. Unpolished groundglass
9. Mirror
10. Two sliding-type shutters
11. 3d safety-shutter

The photocell Amplifier Unit is energized by 1.3 volt mercury cells stored in a case placed at the back of the camera. An external switch controls three positions :

- OFF red dot.
- TEST yellow dot.
- ON green dot.



The photocell drives, as a function of light intensity, a shockproof galvanometer of special design. The pointer of this galvanometer moves within the viewfinder.

A potentiometer connected in the energizing circuit of the galvanometer provides the means of adjusting the system in accordance with film and shutter speeds. An external control potentiometer is provided for the purpose, at the rear of the camera. This control is graduated in film speed (up to 400 ASA) and shutter speed values.

OPERATING PROCEDURE

Use the camera exactly in the same manner as any other R.8 model, except for viewfinder and stop adjustments. In other words, the following operations are modified:

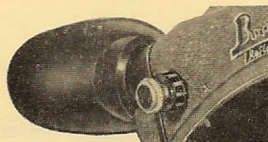
- Viewfinder ocular focusing.
- Lens-stop adjustment.

1) Viewfinder focusing and framing

Focusing and framing are accomplished in exactly the same way as for the normal R.8. The only difference lies in the adjustment of the viewfinder ocular.

Set the ocular focusing ring to the ∞ index. Aim at the sky.

The ocular is adjusted by means of knob (2) which replaces the viewfinder adjustment lever.



Rotate the knob, while aiming at the sky, to obtain optimum definition on the grainy surface of the ground glass (if you normally wear glasses, you may take them off for this adjustment and subsequent filming).

Once the ocular is correctly focused, lock the control knob by means of the lock knob provided over the knurled ring.

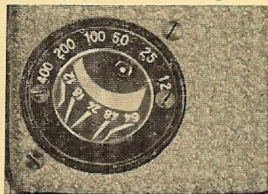
2) Diaphragm adjustment

The new system permits the utilization of lenses and filters of all types. The built-in viewfinder photocell takes care of corrections. The principle is also applicable to micro and macro-filming. Indeed, in those two cases, the built-in photocell proves of advantage, because, normally, the addition of extension tubes and sleeves entails diaphragm corrections which have to be computed beforehand. Here, correction is simply applied by bringing the viewfinder pointer against the index mark.

1 - Before using the camera, check the charge of the battery, proceed as follows:

— Set selector switch to TEST (yellow dot against index).

— Adjust potentiometer by bringing yellow index within 25-50 ASA range.



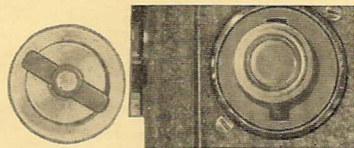
— Aim at a light surface. The viewfinder pointer should come to rest against the center index — or to the left of the index. If the

pointer deflects to the right, change the two cells.

This can be done with the camera in the loaded condition, because the battery case is located outside the camera. There is no risk of spoiling the film.

To open the battery case, give the lock button a half-turn and take out the two spent cells.

Replace them by two fresh cells, fitting them into the case wider side up. The two cells are always changed in sets of 2.



They are of the Mallory RM-400 type, as used in deaf-aid appliances. Beaulieu dealers stock them. They ensure 100 hours of continuous service. The selector switch located at the rear of the "Reflex-Control" bulge precludes premature discharging. Just remember to set the knob to OFF (red dot against index) before shelving the camera. The battery should be replaced at least once a year, even if the camera has not been used in the meanwhile.

2 - Filming.

— Set selector switch to ON (red dot against index).

— Adjust potentiometer according to film ASA rating by bringing the film-sensitivity

GREEN

setting against the shutter speed used. In the case of film-speed ratings other than those indicated by the calibration, use intermediate positions.

— "Aim" and if:

The galvanometer pointer deflects full left : too much light.

The galvanometer pointer deflects full right : not enough light.

In either case, act on the stop-control ring to return pointer to index mark.

You can now proceed with filming, all the while maintaining correct exposure conditions.

The pointer must be kept against the index mark.

The following table shows the correspondence between the various film speeds.

<i>ASA</i>	<i>Scheiner</i>	<i>DIN</i>
10	21	11/10
12	22	12/10
16	23	13/10
20	24	14/10
25	25	15/10
32	26	16/10
40	27	17/10
50	28	18/10
64	29	19/10
80	30	20/10
100	31	21/10
120	32	22/10
160	33	23/10
320	36	26/10
400	37	27/10

IMPORTANT

Prior to "fading-in" a scene, adjust the diaphragm with the shutter on the wide-open position so that, at the end of the fade-in, the pointer has returned to its normal position, against the index mark.

If you wish to film without reference to the built-in photocell, you may use the table page 11. However, you must allow for the fact that shutter speeds should be modified as follows:

<i>Shutter speed f.p.s.</i>	<i>Exposure time</i>
12 f. p. s.	$\frac{1}{40}$ sec
18 f. p. s.	$\frac{1}{65}$ sec
24 f. p. s.	$\frac{1}{85}$ sec
48 f. p. s.	$\frac{1}{175}$ sec
64 f. p. s.	$\frac{1}{240}$ sec
and, for single frame filming	
12 f. p. s.	$\frac{1}{40}$ sec
18 f. p. s.	$\frac{1}{65}$ sec
44 f. p. s.	$\frac{1}{80}$ sec
and over	